

REMARKS

Favorable reconsideration and allowance of the claims of the present application are respectfully requested.

Before addressing the specific grounds of rejection raised in the present Office Action, applicants observe that on the Office Action Summary sheet the Examiner indicated that Claims 1-76 are pending in this application. This statement is incorrect since applicants cancelled Claims 1-38 in the Preliminary Amendment that was filed concurrently with the filing of the present application on October 29, 2003. Hence, Claims 39-76 were pending after the submission of the Preliminary Amendment.

Insofar as the Restriction Requirement mentioned on Page 2 of the present Office Action is concerned, applicants hereby affirm the election of Group II, directed to Claims 72-76. Applicants aver that in their file of the pending case, an oral election to prosecute Claims 72-76 was made to Examiner Stein. The other claims, i.e., Claims 28-38, within Group II were cancelled by the Preliminary Amendment mentioned above.

Applicants obverse that no amendments to the non-elected or elected claims have been made. Applicants, however, have added new Claims 77-84 which are supported by the structure claims, i.e., Claims 28-38, that were cancelled in the Preliminary Amendment. Applicants submit that since the newly added claims are all structure claims they should be examined in the present application, together with Claims 72-76.

Turning to the various grounds of rejection raised in the present Office Action, Claims 28-38 have been rejected under 35 U.S.C. § 101 as claiming the same invention as that of Claims 28-38 of copending U.S. Application Serial No. 10/448,947. Applicants submit that this rejection is not applicable since the alleged overlapping

claims, i.e., Claims 28-38, in the present application were cancelled by way of the Preliminary Amendment that was filed on October 29, 2003. Hence, the alleged overlapping claims are not present in this application. Applicants submit that the above remarks obviate the rejection under 35 U.S.C. § 101; therefore the instant rejection can and should be withdrawn.

Claims 72-74 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting over Claims 30 and 34 of copending U.S. Application Serial No. 10/448,947. Claims 28, 30, 32, 34, 72 and 73 stand rejected under the judicially created doctrine of obviousness-type double patenting over Claims 1-3, 9 and 12 of U.S. Patent No. 6,515,335 to Christiansen, et al. (“Christiansen, et al.”). Claims 28-36 and 72-74 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting over Claims 35-46, 48-50 and 55 of copending U.S. Application Serial No. 10/055,138 (“U.S. Patent Application Publication No. 2003/0139000 A1”). Claims 28-37 and 72-75 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting over Claims 30-32, 34-37 and 39-41 of copending U.S. Application Serial No. 10/196,611 (“U.S. Patent Application Publication No. 2004/0012075 A1”).

In respect to each of the provisional obviousness-type rejections including recitation of one of Claims 28-38, applicants again observe that those claims were cancelled prior to the issuance of the instant Office Action, hence those claims are not present in the pending application and thus those claims are not subjected to the various obviousness-type double patenting rejections mentioned in the present Office Action.

With respect to the provisional obviousness-type double patenting rejections to the remaining claims citing copending U.S. Application Serial Nos. 10/448,947, 10/055,138 and 10/196,611, applicants have enclosed herewith a Terminal Disclaimer which obviates the provisional obviousness-type double patenting rejection citing those copending U.S. Applications. Reconsideration and withdrawal of the provisional obviousness-type double patenting rejections citing the aforementioned U.S. Applications are respectfully requested.

Regarding the obviousness-type double patenting rejection citing Christiansen, et al., applicants submit that Claims 72 and 73 of the present application are patentably distinct from Claims 1-3, 9 and 12 of Christiansen, et al. since the applied reference does not disclose a structure in which the buried oxide that separates the relaxed SiGe layer and the underlying Si-containing substrate is a region or layer that is resistant to Ge diffusion. The importance of the role of the Ge resistance barrier layer has been disclosed in the text of the present application and it was the intention of the applicants to include this feature as one of the defining elements of the final structure. Christiansen, et al. do not disclose or suggest the necessity of the buried oxide layers permeability to Ge atomic diffusion as a defining element. Indeed, nowhere in the Christiansen, et al. disclosure does it teach or suggest that the insulating layer, e.g., buried oxide, is resistant to Ge diffusion. Instead, in the applied reference the insulating layer merely is an electrically insulating material. The necessity of the structure to contain a Ge diffusion barrier is related to the disclosed and claimed method of the present application.

Differentiation between these two concepts becomes obvious by example; one can have an insulating layer which does not act as a diffusion barrier (for example, a buried layer of intrinsic Si (undoped)). The intrinsic Si layer would act as an electrically insulating layer, but exhibit no resistance to Ge diffusion. Conversely, buried layers formed by ion implantation (or non-stoichiometric oxides) can have very poor electrical insulation (or more) and yet serve as efficient Ge diffusion barrier. This is exactly the case in certain types of substrates formed by the SIMOX process.

Because the primary role of the buried oxide layer of the present application is that of a Ge diffusion barrier, it is imperative that thickness be given which teaches what serves as an effective diffusion barrier. In Christiansen, et al., no mention is given to the buried insulating layer thickness because it is inherently optimized based solely on electrical considerations (i.e., by device designers). In the current application, the role of the buried oxide layers to resist atomic transport becomes an important design criterion, and thus the applicants disclose a range which will result in the formation of an effective Ge diffusion barrier.

In view of the above remarks, applicants submit that the judicially created obviousness-type double patenting rejection citing Claims 1-3, 9 and 12 of Christiansen, et al. has been obviated. Reconsideration and withdrawal of the obviousness-type double patenting rejection are thus respectfully requested.

Claims 28-37, 72-74 and 76 stand rejected under 35 U.S.C. § 103 as allegedly unpatentable over Christiansen, et al. Claims 36-38 and 72-76 stand rejected under 35 U.S.C. § 103 as allegedly unpatentable over U.S. Patent Application Publication No. 2003/0139000A1.

With respect to the obviousness rejection citing Christiansen, et al., applicants submit that the above remarks made in regard to the obviousness-type double patenting rejection hold equally well here for this § 103 rejection. Applicants thus incorporate the above remarks regarding Christiansen, et al. herein by reference. To reiterate: Christiansen, et al. do not teach or suggest a structure that includes a buried oxide layer that is resistant to Ge diffusion, as presently claimed. Instead, Christiansen, et al. disclose a structure wherein the insulating layer is merely an electrically insulating layer.

Applicants respectfully submit that the above remarks obviate the § 103 rejection citing Christiansen, et al. Thus, reconsideration and withdrawal of the instant rejection are respectfully requested.

Insofar as the § 103 rejection citing U.S. Patent Application Publication No. 2003/0139000A1 (hereinafter “Bedell, et al.”) is concerned, applicants submit that the statute under 35 U.S.C. § 103(c) states that:

Subject matter developed by another person, which qualifies as prior art only under one or more subsections (e), (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Applicants submit that the Bedell, et al. reference was applied by the Examiner as prior art under 35 U.S.C. § 103 via 35 U.S.C. § 102(e)(1), i.e., the invention was described in an application for a patent, published under 35 U.S.C. § 122(b), by another filed in the U.S. before the invention by the applicant for patent. Applicants note in this regard that MPEP § 706.02(k) states that:

Effective November 29, 1999, subject matter which was prior art under former 35 U.S.C. § 103 via 35 U.S.C. § 102(e) is now disqualified as prior art against the claimed invention if that subject matter and the claimed invention "were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person."

This change to 35 U.S.C. § 103 is applicable to all utility, design, and plant applications filed on or after November 29, 1999 including continued prosecution applications (CPA) filed under 37 C.F.R. § 1.53(d). Applicants note that the present application was filed on October 29, 2003; therefore the present application is entitled to the above change in 35 U.S.C. § 103.

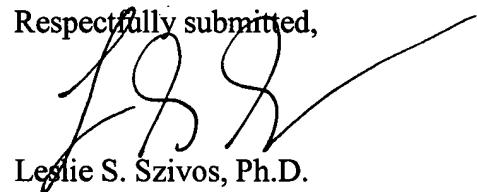
In view of this, and the fact the present application and Bedell, et al. "were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person", the Bedell, et al. reference is disqualified as a reference under 35 U.S.C. § 103(c).

To evidence that the instant application and Bedell, et al. "were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person", the assignment document of the present application (recordation date March 11, 2004 at Reel 014418, Frame 0179) was compared with the recorded assignment of Bedell, et al. (Initial Assignment recorded on January 23, 2002 at Reel 012541, Frame 0896; a new Assignment reflecting a change in inventorship was submitted to the USPTO on April 4, 2003 however the new Assignment has not been recorded as of yet In both instances, the inventors conveyed their entire interest to International Business Machines Corporation; therefore establishing common ownership between the instant application and Bedell, et al.

In view of the above information, Bedell, et al. are disqualified as art therefore the instant § 103 rejection has been obviated; therefore reconsideration and withdrawal thereof are respectfully requested.

Wherefore, reconsideration and allowance of the claims of the present application are respectfully requested.

Respectfully submitted,



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